THE

BRITISH JOURNAL

OF

CHILDREN'S DISEASES.

VOL. XII. NOVEMBER, 1915. No. 143.

Original Articles.

CONGENITAL HEART-BLOCK.

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PRIOR to the introduction of the polygraph and the electro-cardiograph the existence of heart-block and other abnormal relations between the auricles and ventricles of the heart was not recognised. Cases of bradycardia were met with in the past in children as well as in adults, though rarely, it must be admitted, during early life. The cause of the slow ventricular beat, however, was not understood, neither was the fact realised that it was possible for the auricles and ventricles to contract at different rates. Heart-block is now an established fact, and it is known to occur in childhood as the result of acute infections such as pneumonia, diphtheria, and rheumatic fever, sometimes as a temporary condition, but at others leading to a fatal result. In such cases the change in the cardiac rhythm is brought about by a carditis which interferes with the function of the auriculo-ventricular bundle, or possibly in some instances by a degeneration of the nerve-fibres of which the bundle of His is composed.*

The occurrence, however, of heart-block as a congenital condition

* Heart-block in acute rheumatic carditis.—A. E. Naish and A. Mills Kennedy, 'Lancet,' 1914, ii, p. 1242.

has not, so far as I am aware, been hitherto described, or at all events not proved by cardiographic methods. When present as a congenital anomaly heart-block is due to a pre-natal malformation of the heart which gives rise apparently to a defect in the development of the auriculo-ventricular bundle, and consequently to an interference with the normal impulses passing from the auricle to the ventricle. That this is the probable explanation of the condition is evident from a consideration of the two cases here recorded.*

Case 1.—A female infant, aged 1 year and 6 months, who was admitted into the Evelina Hospital on March the 10th, 1914, suffering from whooping-cough and bronchitis. The child was born at full term after an instrumental delivery and was breast-fed for one year. She has always been backward: the first tooth was not cut until the age of nine months, and she did not sit up until she was a year old. She has never walked nor talked. There is one other child in the family whose heart is normal, and there have been no deaths or miscarriages.† The patient is a well-nourished, placid child, though small for her age. Her colour is good, but the hands and feet are at times cold; there is, however, no clubbing of the digital extremities. At no time has the child exhibited any cardiac symptoms, and it was only as the result of a routine examination that the condition of the heart was discovered. The pulse on admission was full, regular, and slow, and in spite of a slightly raised temperature due to the bronchitis, remained persistently between 56 and 64 in the minute. The respirations, on the other hand, were increased to an almost exactly similar rate, and when first seen the child presented the curious phenomenon of absolutely synchronous heart-beats and respirations. At times the respiratory rate was even quicker than the pulse, the former on one occasion being 68 and the latter 60 in the minute. The heart appears to be somewhat enlarged on the right side, but the apex is internal to the nipple line. A skiagram (Fig. 1) shows that the organ is almost globular in outline. Its action as felt and heard with the stethoscope is slow and perfectly regular and corresponds to the pulse, showing that all the ventricular beats reach the wrist. The rate is extraordinarily uniform for an infant; it does not vary to any appreciable extent with emotion, and at the time when the child had whooping-cough it was noted on several occasions that a paroxysm of coughing failed to cause any acceleration of the heart or more than the usual

* Both these cases were shown before the Section for the Study of Disease in Children of the Royal Society of Medicine on November the 27th, 1914.

† Subsequently another child was born, and this also has a normal heart.

cyanosis. All over the præcordium a loud systolic bruit is audible, the maximum intensity being between the apex and the left sternal border and extending up to the pulmonary area. This is evidently produced by a congenital defect in the heart; otherwise the child

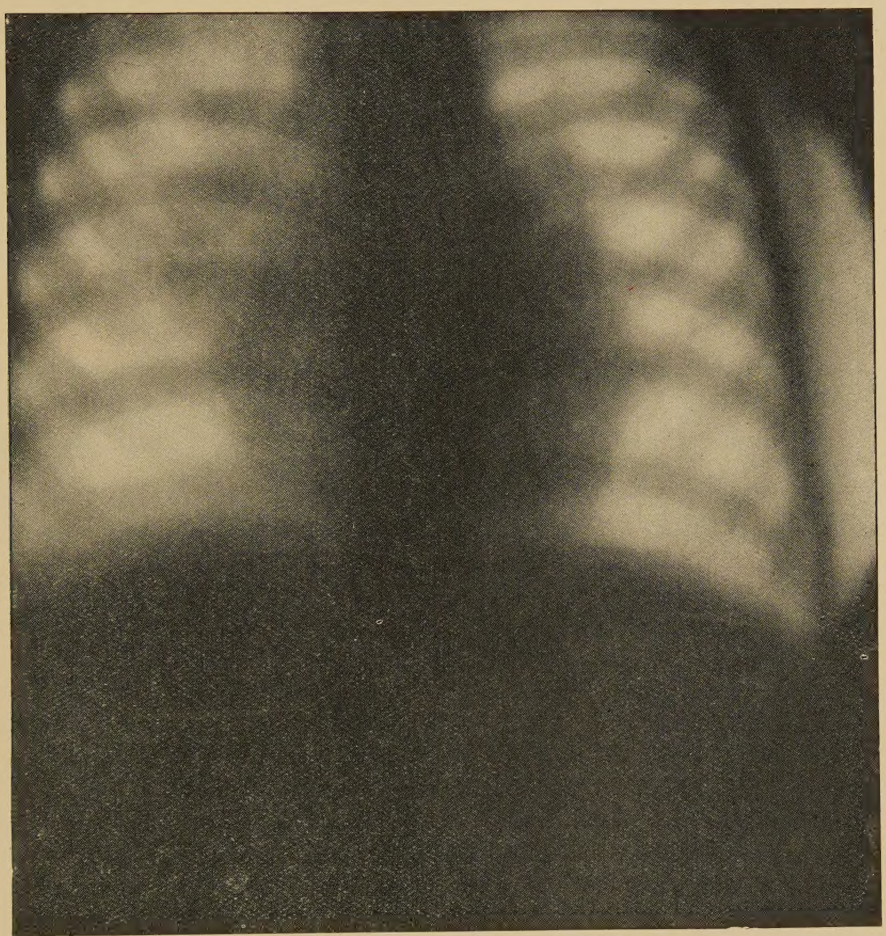

Fig. 1.—Skiagram of the heart (Case 1).

shows no physical malformations. A blood-count showed a polycythæmia of 8,400,000 red corpuscles per c.mm., and the hæmoglobin value was 110 per cent.

During the attack of whooping-cough the lowest pulse-rate noted was 52 and the highest 80, but after recovery the rate remained uniformly between 48 and 56 for a period of several weeks. The

child was then found to have a nasal discharge which, on bacteriological examination, proved to be of a diphtheritic nature. She was consequently sent to a fever hospital, where she remained for nine weeks. On her return the pulse was found to be rather more rapid and averaged between 60 and 70 in a minute, though occasionally dropping to 52. This rate has continued ever since, and even during attacks of pneumonia and bronchitis it has not increased. The last time that the child was seriously ill was in November, 1914, when she was admitted into hospital with bronchitis. She then had a temperature rising to over 101° F. for a few days, but the pulse-rate remained almost uniformly 60.

The electro-cardiogram of the case is specially interesting. This was kindly taken for me by Dr. J. Parkinson and shows a perfectly regular 2 : 1 heart-block. Fig. 2 shows the curves obtained from lead I, and it will here be seen that the auricular summits, P, are

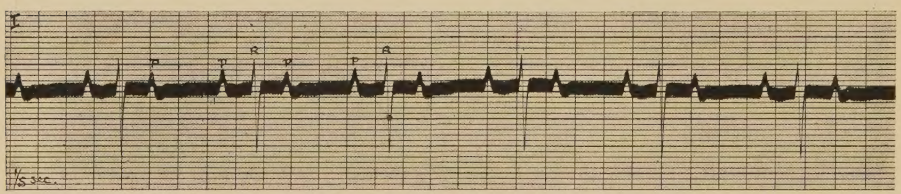

Fig. 2.—Electro-cardiogram (Case 1).

twice as numerous as the ventricular curves, R and S ; the T summits are not in evidence. In those cycles where a ventricular beat normally follows an auricular, the P—R interval is normal, about one fifth of a second. Each of these cycles is followed by an auricular contraction, P, which fails to give rise to a corresponding ventricular beat, as is shown by the absence of R and S curves. There is instead an interval of nearly two and a half fifths of a second before the next auricular curve commences, which in this case is the usual interval between each P summit. The ventricular curves likewise are seen to occur at regular intervals of nearly one second. The heart is thus beating perfectly regularly, two auricular contractions to one ventricular, every alternate auricular impulse being blocked and failing to stimulate a corresponding ventricular contraction. This constitutes a 2 : 1 heart-block. It is further to be noted that the S curves in this lead are specially deep, a feature which is characteristic of right-sided hypertrophy.

Case 2.—A girl, aged 12 years, who was sent to me at the Prince of Wales's Hospital on June the 29th, 1914, by Dr. H. F.

Staunton. With the exception of measles at an early age she has had no illness. Six years ago it was first noticed by Dr. J. S. F. Weir that she had a slow pulse, but it was not until eighteen months ago that any cardiac symptoms occurred; since then she has complained of pain around the heart on exertion, and during the time that she has been under observation it has also been present during periods of rest. There are three other children in the family, all of whom are said to have normal hearts, but a maternal aunt is stated to have died suddenly from her heart at the age of 14. The patient is a well-grown girl and presents no cyanosis nor clubbing of the fingers. The pulse is slow, usually between 50 and 60 in a minute, and slightly irregular in rhythm; the extreme rates noted have been 40 and 64. On two or three occasions only the interpolation of little runs of three, four, or five quicker beats at the rate of about 80 per minute has been detected. The heart is of

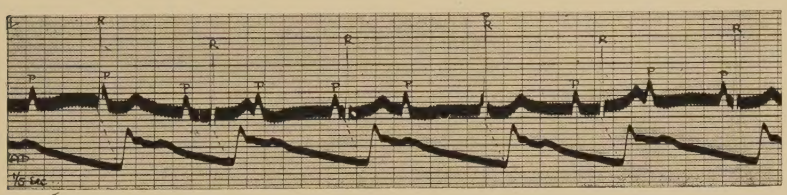

Fig. 3.—Electro-cardiogram (Case 2).

normal shape, but it is considerably enlarged, especially on the left side, as seen in a skiagram, and there is a heaving impulse visible in the fifth interspace well outside the nipple line. A systolic bruit is audible with its maximum intensity in the fourth interspace near the sternum, very similar in character but not quite so loud as that in Case 1; occasionally at the apex and a little outside a slight diastolic whiff has been heard, and the second sound in the pulmonary area is at times reduplicated. A blood-count showed no polycythæmia; the red corpuscles numbered 4,800,000, and the leucocytes 8000 per c.mm.; the hæmoglobin value was 80 per cent.

An electro-cardiogram and a polygraph tracing (Figs. 3 and 4), for which I am again indebted to Dr. Parkinson, both show a marked dissociation between the auricular and the ventricular beats, each of which appears to have an independent rhythm of its own. This is shown graphically on the scale below the jugular tracing in Fig. 4. A study of the electro-cardiogram (Fig. 3), which is taken from lead II, shows that the auricular beats, as indicated by the P summits, occur at intervals of approximately four fifths of a second.

The rhythm, however, is not quite regular, as the eighth auricular deflection does not occur until a full second after the preceding one. The ventricular beats are slower in rate than the auricular and decidedly more irregular, and occur every six or seven fifths of a second. The varying length of the ventricular diastole is easily seen in the radial tracings at the bottom of Figs. 3 and 4. Further evidence of the dissociation between the auricles and the ventricles is obtained by a comparison of the P—R intervals in the electrocardiogram. Thus the first R summit depicted occurs three and a half fifths of a second after the first P, and is followed immediately by another P which takes place before the completion of the first ventricular beat, the T summit of which is not apparent until nearly two fifths of a second later. The second P is not followed by a ventricular contraction at all, but after an interval of rather more

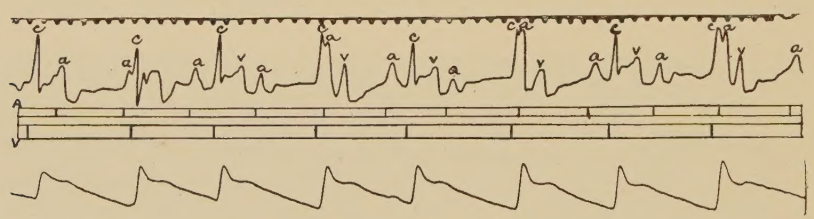

Fig. 4.—Polygraph tracing of the jugular and radial pulses (Case 2).

than four fifths of a second a third P occurs. This is succeeded by an R summit, but at a longer interval than the normal one fifth of a second. Next come two auricular deflections, the first of which follows immediately upon the T summit of the preceding ventricular beat, while the second is followed almost at once by an R, less than a fifth of a second intervening. The sixth P summit occurs without a corresponding R, but the seventh auricular beat is seen to be synchronous with a ventricular, the P and R summits being superimposed. Similar features as regards the auricular and ventricular contractions are brought out by a comparison of the *a* and *c* waves in the polygraph tracing (Fig. 4).

The cause of the irregularity of the heart-beat in this case is somewhat difficult to explain. The effects of respiration upon the cardiac rhythm have been observed, and no influence of the former upon the latter could be made out. Neither does the irregularity appear to be due to any other form of sinus arrhythmia, which results from an alteration in the vagal tone, as after the subcutaneous injection of atropin. sulphat. gr. $\frac{1}{60}$ the irregularity persisted, although the ventricular beats were increased by 20 a minute. It

seems probable, therefore, that there is at times complete heart-block with pulse slow and regular, and at times incomplete heart-block of high grade (3 : 2, 2 : 1, and mixed), and that it is the latter which produces the irregular pulse.

Although there is a difference in the type of heart-block which is present in these two cases, yet they present several points of similarity. Both, I think, are undoubtedly of congenital origin, both have presented no cardiac symptoms with the exception of some pain around the heart complained of by the elder girl during the past eighteen months, and both have a congenital cardiac murmur, systolic in time, and heard most distinctly between the apex and the left border of the sternum. The murmur in both cases I attribute to an anatomical deficiency in the upper part of the inter-ventricular septum involving the path of the auriculo-ventricular bundle of His, and thus causing an obstruction to the passage of impulses from auricle to ventricle, with the result that a condition of heart-block is produced.

What the prognosis of congenital heart-block is I am not prepared to say, but to judge from the present condition of the elder girl it would appear to be not unfavourable for some years at all events. Hitherto the condition has produced in neither of my cases any marked cardiac disability, and it will be interesting, if they can be kept under observation, to watch the future of both these children.

Since my cases were first exhibited Zahorsky has reported * a case of bradycardia in an infant, aged 15 months. The child was small, poorly nourished, and of a cyanotic hue. The fingers were not clubbed, but the ends were of a dusky red colour. The pulse-rate was 54. The heart's apex was visible in the fifth interspace in the mammillary line, and a loud systolic murmur was audible all over the chest. The writer considers the case to be one of heart-block, but he does not appear to have proved it by cardiographic methods. The clinical features in this case are very similar to those presented by my own. It possibly is a case of heart-block, but actual proof is lacking.

THE OCCURRENCE OF ACIDOSIS IN CHILDREN.

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Acidosis is defined by Dr. Frederick Taylor in his 'Practice of Medicine' as the occurrence of certain organic acids in abnormal

* 'Interstate Med. Journ.,' 1915, xxii, p. 57.

No.	Sex.	Age.	Urine.				Provisional diagnosis on admission.	Treatment.	Remarks, progress, etc.
			Reaction.	Albumin.	Sugar.	Acetone.			
1	M.	3 yrs.	+ + acid	—	—	+ +	? Cerebro-spinal fever	Sod. bicarb., pot. cit., and glucose per rectum	Temperature normal on admission. 102° F. at end of week. Vomited for 4 days before admission. Recovery complete. In hospital 27 days.
2	F.	$4\frac{1}{2}$ yrs.	Acid	—	—	+ +	Had eaten fried fish	Sod. bicarb.	Temperature 102° F. Very drowsy. Had vomited for 36 hours before admission. Recovery complete. In hospital 13 days.
3	F.	6 yrs.	Acid + +	Cloud	—	+ +	Had eaten cockles 2 days ago	Urotropine, sod. bicarb., pot. cit., and glucose per rectum	Very drowsy. Vomited 3 times. Delirious. Knee-jerks + +. Kernig present. Slight head retraction. Shivering fits and tremulous. Cerebro-spinal fluid under pressure. Joint pains. Very high temperature. Recovery complete. In hospital 21 days.
4	F.	$10\frac{10}{12}$ yrs.	Acid +	„	—	+	As No. 3	As No. 3	As No. 3. In hospital 36 days.
5	F.	7 yrs.	Acid	„	—	+	? Cerebro-spinal fever	No drugs	Had had a fit. Left knee-jerk absent. No Kernig. Drowsy. Recovery complete. In hospital 7 days.
6	M.	$9\frac{1}{2}$ yrs.	„	—	—	+	„	—	High temperature. Drowsy. Irritable. In hospital 27 days.

7	F.	7 yrs.	Acid + +	Cloud	—	+ +	? For 7 days, then signs of pneumonia	Sod. bicarb. and pot. cit. per rectum	Temperature high (105° F.). Remissions 6–7°. Drowsy. Delirium. Complete recovery. In hospital 25 days.
8	F.	4½ yrs.	Acid	—	—	+	Unconscious. Temperature 101° F. Pulse 128–160. Respiration 40–56. Death	—	P.M. — Empyema; pericarditis; hæmorrhage into suprarenals. In hospital 1 day.
9	F.	6 yrs.	Acid + +	Yes	Yes	+ +	Thought to be diabetes, but sugar cleared up. Pneumonia developed, followed by empyema	Carbohydrate free diet. Sod. bicarb. and pot. cit. per rectum	Comatose. Breath smelt of acetones. Temperature high, with large remissions. Recovered. Still in hospital.
10	M.	4 yrs.	,,	No	No	+ +	Acidosis; sent in as dysentery; simulated intussusception	Sod. bicarb., glucose, and pot. cit. per rectum	Vomiting. Colicky pains. Blood and mucus by rectum, not mixed with fæces. Recovery complete. In hospital 8 days.
11	M.	3 yrs.	,,	Cloud	No	+ +	Acidosis, ? endocarditis	Sod. bicarb., pot. cit, and glucose per rectum	Very drowsy and irritable. Temperature high; marked remissions. Developed an apical systolic murmur. Still in hospital. Not nearly so drowsy.
12	M.	5 yrs.	,,	*Nil*	No	+ +	Pneumonia	Do.	Still in hospital. Convalescent.
13	F.	4 yrs.	,,	—	—	+ +	Ptomaine poisoning. Ice-cream 11 days before, followed by a rash	No milk; calomel	No diarrhœa or vomiting. Temperature 102° F.; marked remissions. Recovery complete.

amounts in the blood and urine. β-oxybutyric acid is the chief body present, diacetic acid and acetone being derived from it by oxidisation. There is no evidence to show that there is any essential difference between acidosis occurring during the course of diabetes and acidosis due to other causes, viz. phosphorus or opium poisoning, acute yellow atrophy of the liver, eclampsia, recurrent vomiting of pregnancy, and delayed chloroform poisoning. The acetone bodies so-called may originate from any or all of the three main classes of foodstuffs, but the balance of evidence goes to show that ordinarily they arise from the metabolism of fats, and in severe cases of diabetes from proteins as well. In several of the causes of acidosis given above, fatty or other changes have been found in the liver post mortem. In view of the importance of the early recognition of this condition I have tabulated the symptoms arising in thirteen cases which have come under my own observation during the present year, showing the varied forms of disease this condition may simulate.

Of these cases five cases occurred in boys, the remainder being girls. All the children were under eleven years of age and over three years of age. Three cases presented on admission symptoms suggestive of meningitis, but on examination of the cerebro-spinal fluid, which was under considerable pressure, showed no cytological changes nor organisms; examination of the urine, however, showed the presence of acetone and diacetic acid in varying degrees.

Two cases of mussel poisoning (mytiloxtoxin) and one case of ice-cream poisoning showed marked acidosis. In the two cases of mussel poisoning nervous symptoms were predominant, whereas in the ice-cream poisoning there was pyrexia with great remissions of temperature. In one case acidosis preceded pneumonia (for seven days) and in another case the acidosis occurred during the course of a pneumonia, and in a third case whose urine was found on admission to contain sugar, the sugar quickly disappeared, but the patient developed signs of pneumonia with acidosis which were followed by an empyema. In one case admitted in a practically moribund condition, the post mortem revealed suprarenal hæmorrhage. One case sent into hospital as dysentery suffered from vomiting, colicky pains in the abdomen, with blood and mucus, symptoms suggestive of an intussusception; the intense acidity of the urine and the quick response to treatment by alkalies showed the symptoms to be caused by acidosis due to some unknown cause. A child admitted into hospital very drowsy and irritable with a high temperature developed at the end of a week a systolic murmur. The urine on admission was very acid and contained acetones and

diacetic acid (no salicylates were given); alkali treatment and glucose caused loss of drowsiness.

A study of the above cases shows how a multitude of causes may combine to upset the normal metabolism of a child and cause the symptoms of acidosis, and how, in some cases where there is no other obvious cause to guide one, the symptoms caused by the acidosis may lead one to an absolutely wrong diagnosis. It is therefore important in all cases of doubtful origin in young children that the urine should always be carefully examined for diacetic acid and acetones, as well as for the *Bacillus coli*.

Treatment consisted of bicarbonate of soda in doses up to ʒj hourly in an effervescent mixture and pot. cit. ʒss with glucose ʒj *per rectum* every four hours.

I wish to thank Dr. M. Esther Harding for the very careful notes taken on the above cases.

A CASE OF PRIMARY BRONCHIAL DIPHTHERIA.

By W. Mitchell Smith, M.D.,

Tean, Staffordshire.

The incidence of primary bronchial diphtheria is sufficiently rare to warrant publication of the following:

A girl, aged 13 years, was sent to the isolation hospital on April the 26th suffering from scarlet fever. The attack was not severe. The rash on admission was profuse, and on April the 29th a gland in the right side of the neck was enlarged. The temperature never reached 102° F., and was normal from May the 3rd onwards, except for slight irregular pyrexia between May the 13th and 21st. This was accompanied by earache and the recurrence of the swelling of the gland in the neck. From May the 22nd convalescence was uninterrupted, and the child was discharged on June the 5th. Her sister had also developed scarlet fever four days after the onset of the disease in the patient under consideration. There were no cases of diphtheria in the ward of the isolation hospital in which these patients had been treated. The girl was driven home, about six miles, in a motor. On June the 6th she was up and out in the garden in the morning. Between noon and 4.30 p.m. she began to feel ill, and was seen at midday on June the 7th. She was looking ill, pallor being particularly noticed. The points that especially attracted attention were that a short hacking cough which was unproductive occurred with great frequency and that she spoke in a whisper.

She had spoken in a similar manner during the acute stage of her scarlatina. There was no stridor and no difficulty in breathing. On examining the chest attention was immediately drawn to the fact that no breath-sounds could be heard over the right upper lobe anteriorly and that there was a marked diminution of breath-sounds over the corresponding area on the left side. On the posterior aspect of the chest the breath-sounds were not abnormal. The heart was not dilated. The fauces in particular were examined and

no sign of any abnormality was detected. There was no nasal discharge. At this time the condition was regarded as the early stage of broncho-pneumonia, and treatment was ordered accordingly. At 10 o'clock in the evening of this day she complained of severe pain on the anterior part of the right chest, especially in the neighbourhood of the first rib. A mustard leaf was applied over this area, and shortly afterwards the child developed "croup" with marked dyspnœa. This continued until 3 o'clock next morning, June the 8th, when a cast was coughed up. This was sent to the Bacteriological Department at Birmingham University for examination, and the report was received that the specimen contained diphtheria bacilli.

The child was seen at midday on June the 8th, and in view of the appearance of the expectorated cast 4000 units of anti-diphtheritic serum were injected subcutaneously. An examination of the chest showed that the air entry over the right apex was much improved, but over the left apex breath-sounds were practically absent. The condition of the chest was unchanged on June the 9th, and a further injection of anti-diphtheritic serum (2000 units) was given. In the afternoon of June the 9th she complained of pain over the left side of the chest anteriorly, in a corresponding area, and again a mustard leaf was applied. A paroxysm of dyspnœa developed later, less intense than the former, following which another cast was expectorated which is seen in the accompanying photograph. After the expectoration of the second cast, convalescence generally was uninterrupted, and the signs in the chest rapidly disappeared. During June the 10th and 11th she coughed up a considerable quantity of mucus, which was white and frothy, and showed no sign of any organised membrane.

The two casts are similar, except that the second one presented at one extremity a lateral opening into which it may be assumed one end of the first cast was inserted. The external aspects of these casts presented a ragged irregular surface. The lumen was almost entirely occluded in its whole length with mucus, the consistency of which on the periphery was more dense than that in the centre of the lumen. The action of spirit on the cast was to give it a more dead white appearance than immediately after expectoration, while mucoid material from the inner aspect of the lumen was dissolved and disappeared. From the appearance of the casts and the physical signs of obstruction to the upper lobes, it would seem justifiable to assume that the membrane was formed at the bifurcation of the trachea and extended down the two main bronchi. The administration of serum probably inhibited the extension of the membrane down the subdivisions of the bronchial tree, the further spread being represented by mucus which was expectorated in the few days following the extrusion of the main membrane.

Literature on the subject of primary diphtheritic involvement of the trachea and bronchi is, so far as I can discover, not very extensive. The only account of the subject to which I have had access is an article by Drs. Robert Dawson Rudolf and A. McPhedran in the 'Transactions of the Association of American Physicians,' 1902, xvii, p. 378. In this paper preliminary remarks are quoted from the various text-books alluding to the subject. Without repeating the statements from the text-books it may be said that the

general opinion is that primary diphtheria of the trachea and bronchi is rare, some authorities going so far as to say that it never occurs, and stating that where it is said to be found and is apparently primary, membrane has been present on the fauces or in the larynx but has not been detected. All authorities are agreed as to the extremely high death-rate of such conditions, but it should be remembered that these remarks were made prior to the introduction of diphtheria antitoxin. Since the employment of this serum a case has been recorded by Drs. Ewart and Hunt in which recovery took place. This case was slightly different from the case recorded in this paper. The tracheal and bronchial symptoms developed at the end of an illness lasting nearly three weeks, in which the symptoms were designated as those of "pulmonary catarrh" which was known to be diphtheritic. In this case there was temporary obstruction of the right bronchus and a series of tube casts of the trachea were expectorated. Large quantities of antitoxin had been employed.

The case recorded by Drs. Rudolf and McPhedran was one which had been treated in hospital for osteomyelitis for which an operation was performed on November the 1st, 1901. On the evening of November the 26th the patient appeared to have bronchial catarrh, and within a few hours was suffering from cyanosis and marked dyspnœa. Tracheotomy was performed with temporary relief. A culture taken at the time of the performance of the operation revealed a pure growth of Klebs-Loeffler bacillus. The larynx was examined five hours after the performance of tracheotomy, and no abnormality was detected. Antitoxin was used freely, and quantities of membrane came away through the tube. The child, however, died on November the 29th, and no post-mortem examination was permitted. Death was apparently due to asphyxia.

In the present case there was certainly no faucial membrane, and the early symptoms contra-indicate the commencement of the membrane in the larynx followed by extension down the bronchus. The initial symptoms strongly suggest that the disease when first seen was situated in the bronchi, causing deficient air entry into the upper lobes of both lungs. The characteristics of the membrane also suggest that it was sharply limited to the bifurcation of the bronchi and their immediate neighbourhood and did not extend further into the trachea. It is interesting to note that the second piece of membrane was extruded more easily than the first, this being probably the result of the early administration of antitoxin. The only point common to these cases is that the condition occurred after a prolonged illness and in the female sex.

LYMPHANGIOMA OF THE CONJUNCTIVA.

By Euphan M. Maxwell, M.B.,
Assistant Surgeon and Curator, Royal Victoria Eye and Ear Hospital, Dublin.

The following two cases of lymphangioma of the conjunctiva came under my notice during the latter half of last year.

Lymphangioma involving the conjunctiva alone is not of great rarity, but where it also affects the orbit, as seems probable in one of these cases, it is exceedingly rare.

It is generally stated that the predisposition to lymphangioma is present at birth, but that the growth of the tumour is very gradual. That this appears to have been the case in both these patients will be seen from their histories.

The first case is that of a girl, aged 3 years. Her parents brought her to the hospital in December, 1914, having noticed for the past year that the lower half of the right eye seemed more raised than the other.

That its appearance was never quite normal is obvious from their statement that the child had "had a cold in the right eye since birth." The mother subsequently told me that at the age of 1 year, she noticed a lump on the right side of the child's forehead, which swelled up whenever she had a cold, a yellowish discharge appearing in the eye at the same time.

On examination, the whole lower half of the right conjunctiva bulbi was seen to be raised in a greyish semi-translucent mass, which pitted on pressure with a probe. There was a slight swelling on the forehead situated over the right frontal sinus and giving a boggy feel on palpation; there was no obvious connection between it and the conjunctival swelling.

The child having been admitted to the hospital, a piece of the conjunctival growth was removed for microscopical examination. The section examined showed numerous empty spaces lined by endothelium. Here and there in the connective tissue between the spaces were to be seen a few small round cells. The conjunctival epithelium appeared normal or slightly thickened.

Within a few hours of the removal the whole tumour became diffused with blood and assumed a bright red colour. The child was now taken from hospital by the parents, but was soon brought back with a purulent discharge from the conjunctiva.

In the meanwhile the growth had increased and now involved the inner half of the conjunctiva bulbi as well as the lower half.

It was then decided to treat the conjunctival growth by electrolysis. A needle was attached to the negative pole of the battery and inserted for about half a minute into the growth. The strength of the current employed was about 4 to 6 volts.

This was to have been repeated every ten days, varying the site of insertion, but the treatment was interrupted by the child developing bronchitis. She was then lost sight of until August of this year. At this last examination I noticed no further increase in the tumour, which still remained red in patches. At the lower limbus the uniform margin of the growth had disappeared, a few limpid vesicles overhanging the cornea in this area. The parents refused any further treatment of the conjunctiva or any examination of the frontal sinus which had been recommended.

The second case, a girl, aged 3½ years, was first admitted to the hospital in August of last year. Her parents gave a history of having noticed a protrusion of the left eye since she was ten months old. On examination, the conjunctiva bulbi showed a similar appearance to that described in the last case in its upper and inner quadrant. In addition, the eye was found to be proptosed downwards and outwards to the extent of 3 mm.; motion inwards was limited.

The orbit was explored from the outer side following Krönlein's method, but nothing abnormal was seen or felt. An exploration was attempted at the inner side, and the growth appeared to go back indefinitely into the orbit.

A piece removed for microscopical examination showed similar appearances to the last case.

In November the patient underwent a course of electrolysis on the lines above mentioned. She received four applications at intervals of ten days. At the end of this time the proptosis had diminished by 1 mm. and the conjunctival condition had improved. She went home in January and returned to the hospital in July of this year. On examination, it was found that the proptosis had not further diminished. The superficial part of the growth had now become so hard wherever it had been electrolysed that further insertion of the needle was rendered very difficult. A subconjunctival resection of as much of the growth as possible was the course then adopted. The child has now gone home to be sent back to hospital again in a few months.

The question of treatment in such cases is not an easy one to decide. Excision in the conjunctival area can only be undertaken subconjunctivally, and this is a difficult matter with such an indefinite mass to deal with.

In the second patient an attempt was made to establish superficial drainage by making multiple incisions into the tumour, but this proved quite ineffectual.

Most authors are unanimous in recommending electrolysis. This acts presumably by setting up an inflammation, which is followed by the formation of contracting connective tissue. This treatment is easy enough of accomplishment in the superficial parts of the tumour, but is not very practicable where it recedes back into the orbit.

I have to thank Mr. Story and my father for their kindness in allowing me to publish these cases.

Postscript.—Since writing the report of these cases, I have read with interest Mr. Mackay's article in the 'Transactions of the Ophthalmological Society' for 1915, entitled "A Note on Lymphangioma of the Orbit treated with X Rays."

The success he achieved will assuredly encourage others to give this method a trial.

Société de Pédiatrie, Paris.

June the 9th, 1914. *Bulletin No.* 6.

Acute Encephalitis in Children.—M. Comby was of opinion that this disease was more frequent than was thought. Before lumbar puncture became common as a diagnostic measure it was never recognised, but now a diagnosis could be made between meningitis and encephalitis. In the former the cerebro-spinal fluid, whether clear or turbid, always contained abundant leucocytic elements; in the latter they were absent. The discussion was continued by MM. Guinon and Dufour.

Hæmorrhagic Conditions in late Childhood.—MM. Triboulet, Rolland, and Buc reported a case of a girl, aged 9 years, who had severe recurrent hæmorrhages treated by radiotherapy, enemata of Witte's peptone, injections of chloride of calcium, emetin, antidiphtheritic serum, and splenic extract without benefit. The pathology of such cases was unknown.

Hæmokonia and the Bile Salts and Pigments in the Urine.—MM. Nobécourt and Maillet made observations in eleven cases to ascertain what relation existed between the quantity of blood dust and biliary elements in the urine. In the majority of these cases they found that no definite relationship existed.

Adenitis of the Iliac Fossa simulating Coxalgia.—M. Savariaud reported two cases which showed that the signs in favour of adenitis were absence of pain at night and on walking, diminution of lameness by exercise,

absence of limitation of movements of abduction and rotation, absence of pain on pressing the posterior part of the articulation, and absence of osseous changes by radioscopy.

Results of Feeding Sick Children on 10 per cent. Saccharose.—MM. Nobécourt and Nadel reported 30 cases comprising vomiting, cachexia, acute and subacute gastro-intestinal affections and other ailments. In vomiting infants this feeding usually caused diminution and sometimes cessation of the vomiting, but this action was not constant, and when it existed was not always lasting. In cachexia and hypotrophy, of whatever origin, saccharated feeding was generally well tolerated and often produced a rapid and continuous increase of weight. In one case only the urine contained glucose, and acetone was invariably absent. In gastro-intestinal affections sugar was well tolerated whether given with water, rice-water, buttermilk, milk, or vegetable broth. The digestion of sugar in infants with other ailments was normal; large doses seemed at times to have a favourable action on the course of the disease. "Sugar fever" was never observed.

Intolerance of Farinaceous Food in an Infant of 10 months.—MM. Nobécourt and Philippon. The stools were liquid and frothy with an odour of acid fermentation. Examination revealed the presence of starch granules imperfectly digested and of iodophile yeasts, while Schmidt's fermentation test was strongly positive. The child displayed a remarkable tolerance for sugar.

Researches on Alimentary Diseases due to Defect.—MM. Weill and Mouriquand related their experiments in producing beri-beri in pigeons by feeding with decorticated barley.

Reduction of Congenital Dislocation of the Hip before the Second Year.—M. Lange showed two cases operated on at the ages of 13 and 15 months who had walked well after five and six months respectively. He thought these results should encourage perseverance in the rule to reduce their dislocations as soon as diagnosed.

Congenital Labial Hemispasm and Malformation of the Ears.—MM. G. Variot and F. Cailliau described two cases with autopsies. In both the lesions consisted in a rarefaction and marked atrophy of the muscular fibres with destructive and retrogressive changes. The depressor anguli oris, levator menti, and buccal muscles of the affected side showed no alteration. This explained the fact that when the orbicularis on one side was absent or atrophic the contracture of these muscles induced the characteristic spasmodic grimace. The lesion was most marked in the case where it existed with a double malformation of the ears.

Exophthalmic Goitre in a Child of 8½ years.—MM. Sonnié-Moret and Saison reported this case, which was of interest not only from the age of the patient, but also from the disease having been apparently provoked by an attack of measles. Both parents had suffered from vaso-motor trouble and palpitation.

Meningitic Syndrome supervening on Varicella in an Adenopathic Child.—MM. Guinon and Halbron related the case of a boy, aged 4 years,

who, during cerebral symptoms which resembled those of tuberculous meningitis, developed paralysis of the muscles of the right half of the palate and lips of the same side. The dysphagia resulting from this paralysis was complicated by anorexia and vomiting probably of reflex origin. All this happened during the eruption of a varicella with an acetonemic syndrome. Recovery was perfect. The cuti-reaction was persistently negative.

VINCENT DICKINSON.

Abstracts from Current Literature.

Tuberculosis.

Congenital tuberculosis (*'Arch. de Méd. des Enf.,'* 1914, XVII, *p.* 721). —**Péhu** and **Chalier** have collected from literature 16 undoubted cases which have been published since or were not included in their last paper on this subject (*v.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1908, V, *p.* 454). In 12 of these there were naked-eye lesions, and in 4, including Delearde's case (*ibid.*, 1913, X, *p.* 547), there were no microscopic lesions, but tubercle bacilli were present or animal inoculation was positive. They reject the cases of Zarfl (*ibid.*, 1913, X, *p.* 175) and Repaci (*ibid.*, *p.* 547), as the possibility of acquired tuberculosis could not be excluded. They conclude that authentic cases of congenital tuberculosis are very rare. There are only 51 on record. The conditions under which they occur are always the same. They appear during or at the end of pregnancy when the placental circulation is established, and result from a bacillæmia which is usually a terminal event. They should therefore be regarded as examples of transplacental heredo-contagion, and not of direct heredity. J. D. ROLLESTON.

Inheritance of tuberculosis (*'Arch. de Méd. des Enf.,'* 1915, XVIII, *p.* 1. —**Péhu** and **Chalier** summarise their paper as follows: (1) The dystrophies sometimes observed in the children of the tuberculous have no specific character. (2) It is not proved that there is a special hereditary disposition for tuberculosis. The descendants of the tuberculous offer a soil suitable for all diseases and not specially for tuberculosis. (3) It has not been proved that there is an hereditary immunity to tuberculosis. (4) The transmission of the tubercle bacillus from parents to offspring by the spermatozoon or the ovum has not been established. (5) Transplacental heredo-contagion exists, but owing to its extreme rarity this mode of propagation of tuberculosis has a very restricted importance. (6) It is in the infected environment in which they live that the children of the tuberculous become contaminated. Rational prophylaxis will protect them from the disease. J. D. ROLLESTON.

Tuberculosis as a disease of the new-born (*'Amer. Journ. Dis. Child.,'* 1915, IX, *p.* 322).—**C. G. Grulee** and **F. Harms** review the literature and record a personal case. A child was born of a mother whose history was negative except for an old tuberculosis of the hip, apparently healed. He was born apparently at term and appeared healthy, but fifteen hours after birth he had a high temperature, which continued irregular until death on the eleventh day. There was a tendency to regurgitation, and on the seventh day generalised convulsions occurred, which lasted till

twenty-four hours before death. The only physical signs were an enlarged liver and spleen. The necropsy showed a generalised tuberculosis chiefly affecting the abdominal organs, especially the peri-portal lymph glands, liver, and spleen. The tuberculosis was miliary in type, but the stage of the tubercles suggested that the disease had already begun *in utero*. Many tubercle bacilli were found in all sections of the tuberculous areas. The mother survived. J. D. Rolleston.

Transmission of tuberculosis in childhood (*'Arch. of Ped.,'* 1915, xxxii, *p.* 485).—**W. H. Park.**—Intra-uterine affection occurs in children born to mothers affected with miliary tuberculosis. About 24 per cent. of cases in young children are infected by the bovine variety of tubercle as compared with 1·5 per cent. of adults. About 16 per cent. of all milk samples taken in New York contain the tubercle bacillus. Bacilli may be present even when the udder is normal. In the certified herds less than 5 per cent. of the cows react to tuberculin, and only about $\frac{1}{2}$ per cent. had more than a slight localised tuberculosis. Pasteurisation destroys the tubercle bacillus in milk. In butter the organism may live for as long as five months, but it usually dies within a few weeks. Little is known as to the infecting power of butter or meat containing tubercle bacilli. The human source is, however, the main factor in causing the disease. Clinical tuberculosis is commoner among the children of the tuberculous than among those who are free from the disease. Christopher Rolleston.

The incidence of tuberculosis in childhood (*'Journ. State Med.,'* 1915, xxiii, *p.* 44).—**A. P. Mitchell** investigated the prevalence of tubercle bacilli in the Edinburgh milk supply, and as a result formulates the following general conclusions: (1) The high incidence of tubercle bacilli in milk imported to Edinburgh from country districts clearly points to the necessity of measures more stringent than those at present enforced being taken to prevent tubercle-infected milk reaching the public. (2) The danger from infected milk in Edinburgh cannot be regarded as other than serious in view of the prevalence of bovine infection of children. The only way to safeguard the public against this danger is for the local authority without further delay to grapple with the existing inadequate supervision of the milk supplied to Edinburgh from rural districts. The existing local powers should be exercised to their full extent, a sufficient staff of veterinary inspectors established, and a systematic bacteriological examination of the milk provided for. (3) The provision of legislation for the whole country is very desirable in view of the inadequacy of the powers at present vested in Scottish local authorities. (4) Until the necessary measures have been introduced it is advisable for the public to boil all milk consumed in their families. J. Allan.

Tuberculosis in childhood (*'The Polyclinic,'* 1915, xix, *p.* 53).—**T. N. Kelynack** does not consider cutaneous reactions by von Pirquet test and others of much value. He discountenances the use of tuberculin. He does not believe in the indiscriminate diagnosis of hilum disease, and considers that glandular enlargement is frequently due to streptococcal or other non-tuberculous infection. He disapproves of extensive operations on tuberculous glands for fear of general involvement. F. R. B. Atkinson.

A study of tuberculous lesions in infants and young children based on post-mortem examination (*'Amer. Journ. Dis. Child.,'* 1914,

VII, *p.* 362).—**M. Wollstein** and **F. H. Bartlett.**—From July 1, 1908, to April 1, 1914, 1320 autopsies were performed at the Babies' Hospital of New York City. Of these 178, or 13·5 per cent., showed tuberculous lesions. Their ages ranged from $2\frac{1}{2}$ months to 5 years. There was no instance of congenital tuberculosis. The cases were divided into pulmonary and intestinal groups according as the predominant lesions were in the lungs or bronchial glands or in the intestine and mesenteric glands. I. Pulmonary group: (1) Tuberculous lesions limited to bronchial glands. Five cases in infants aged from 17 to 27 months. The lesions were active in each case. (2) Tuberculous lesions involving bronchial glands and one other organ: (*a*) lung, 2 cases; (*b*) pia mater, 1 case; (*c*) finger, 1 case. (3) Tuberculous lesions involving lungs and bronchial glands as the most advanced lesion of a more or less generalised tuberculosis. The great majority of cases, *i. e.* 134 out of 178, were examples of primary pulmonary infection with markedly generalised tuberculosis by way of the blood. Calcareous degeneration was found only 5 times in the lungs and 13 times in the bronchial glands. In no case, however, was the tuberculous lesion entirely calcified or encapsulated. Pulmonary cavities were found in 43 children, 31 cavities being in the right and 20 in the left lung. Pulmonary hæmorrhage did not occur in any case. II. Intestinal group: (1) Tuberculous lesion limited to mesenteric glands, 1 case. (2) Tuberculous lesions limited to the intestine and to the mesenteric and cervical glands, 1 case. (3) Tuberculous lesions of the intestine and mesenteric glands as the oldest lesion in a generalised tuberculosis, 17 cases; 65 per cent. of these were beyond the nursing stage, whereas in only 55 per cent. of the cases of respiratory infection were the children over 1 year old. There were only 14 cases out of 178 in which the lungs were not involved and only 9 in which the bronchial glands escaped. The mesenteric glands were the seat of tuberculosis in 113 cases. Tuberculous meningitis occurred in 69, or 38 per cent., 28 of whom were in the first year, and 22 in the second year; 3 cases were of intestinal origin. Younger infants had a larger number of viscera involved, while older children showed a more localised infection. The smaller proportion of cases of tuberculous meningitis in children infected by ingestion as compared with those infected by inhalation is in keeping with the fact that the deglutition cases show less tendency to generalisation than the respiratory cases.

J. D. ROLLESTON.

Primary tuberculous bacillæmia in infancy (*'Le Nourrisson,'* 1915, III, *p.* 125).—**A. Jousset.**—A guinea-pig inoculated with the tubercle bacillus soon develops septicæmia, the primary nature of which is proved by the absence of naked-eye and microscopic lesions. A similar bacillæmia occurs in infants. Jousset records 6 cases in patients aged from 8–15 weeks, and 2 in infants aged 6–7 months, in whom the diagnosis of gastro-enteritis, athrepsia, infantile diarrhœa, debility, etc., had been made, while they were really suffering from tuberculous bacillæmia. The primary nature of the septicæmia was proved by the absence of lesions post mortem. Tuberculin tests are more often negative than positive in such cases, but an obstinate diarrhœa and a loss of weight out of proportion to the intestinal condition are suggestive.

J. D. ROLLESTON.

Tuberculous cervical adenitis in children (*'Clin. Journ.,'* 1915, XLIV, *p.* 41).—**J. Fraser.**—An examination of 300 cases of children under 12 suffering from this condition showed that 10 per cent. occurred during the first year. A third of the cases occurred from 2–4 years. The glandular

enlargement was frequently preceded by one of the exanthemata, especially measles. The younger the child when the disease appears, the more serious is the prognosis. Disease of the upper glands is less dangerous than disease of the lower. Treatment by tuberculin should only produce focal reactions. Mehnarto's serum gives promising results. Operation should be avoided, if possible, before the age of 2, and also if there is no caseation.

F. R. B. Atkinson.

Pulmonary tuberculosis with laryngo-pharyngeal stenosis (*'Pediatrics,'* 1915, xxvii, *p.* 320).—**D. S. Wilson.**—A boy, aged 16 years, had primary pulmonary tuberculosis, with secondary involvement of the larynx and pharynx. The disease progressed until adhesions between the base of the tongue and epiglottis reduced the aperture through the pharynx and larynx to about the size of an ordinary lead pencil. Swallowing became impossible, liquids being regurgitated through the mouth and nose, and he was fed by rectum for some time. The respiration became seriously impeded, and the sound produced by his breathing could be heard at a considerable distance. Wassermann's reaction was negative. Tracheotomy to be followed by gastrostomy was recommended, but death occurred ten minutes before the operation. J. D. Rolleston.

Notes on a case of broncho-alveolitis (*'Arch. de Méd. des Enf.,'* 1915, xviii, *p.* 440).—**H. Barbier** describes a case in an infant, aged 3 months. The autopsy showed a congested lung studded with tubercles and a caseous bronchial gland. An intense alveolitis was found microscopically with an amorphous exudate consisting of disintegrating alveolar cells containing enormous numbers of tubercle bacilli. There were no other tuberculous lesions. The infection must have been air borne.

Christopher Rolleston.

The significance of certain areas of thoracic dulness in children (*'La Pediatria,'* 1915, xxiii, *p.* 163).—**S. Maggiore** examined 37 children who all gave a positive tuberculin reaction, and recorded the presence of an area of dulness in the supra- and infra-spinous fossæ in 22 instances on the right side and in 15 on the left. In 28 there existed more less marked evidence of tracheo-bronchial adenopathy. Radioscopy showed in only four instances any shadow in the upper pulmonary lobes, and in all these four cases moist sounds were heard on auscultation. Of four cases in which there was an autopsy, in one, in which moist sounds had been present, the lung was healthy, but there were enlarged caseous glands in the region corresponding to the dulness. In the remainder, including those who gave clinical evidence of adenopathy, radioscopy afforded evidence of enlarged peribronchial glands on the same side as the dulness. The conclusion arrived at by the author is that apical dulness in children who react to tuberculin is due in the majority of cases to tracheo-bronchial adenopathy, even when moist sounds exist. Vincent Dickinson.

A case of tuberculous cardio-cirrhosis (*'La Pediatria,'* 1915, xxiii, *p.* 134).—**De Stefano** reports the case of a child of ten years, who for two years had suffered from febrile symptoms and headache, followed by abdominal swelling, and for one year from convulsive attacks, strabismus, and tonico-clonic contraction of the muscles of the trunk and limbs repeated at long intervals. On admission there was cyanosis, an enlarged and hard abdomen, a spleen just palpable, a prominent precordial region with palpable

but not visible apex beat, and increased precordial area of dulness. The bases of both lungs were dull, with weak vesicular murmur and absence of vocal fremitus. There was also dulness in the right supra-spinous fossa with weak inspiration. Drowsiness, increased patellar reflex, positive cuti-reaction, Wassermann negative. Autopsy showed polyserositis, universal pericardial adhesions, nutmeg liver, tuberculous mass in right occipital and parietal lobes the size of an orange, and three nodules the size of nuts in the right frontal and parietal lobes. In this case, which may be considered one of polyserositis causing pericardial adhesions and nutmeg liver, the nervous symptoms were few. VINCENT DICKINSON.

Tuberculosis of the liver in an infant, aged 3 months (*'Arch. de Méd. des Enf.,'* 1915, XVIII, *p.* 437).—**H. Barbier.**—In children of tuberculous parents fatty degeneration of the liver cells is accompanied by an intra- and extra-lobular sclerosis. The liver becomes smaller. A child, aged 3 months, born to a tuberculous father, was brought to hospital with signs of acute bronchitis, cough, fever, vomiting, and anorexia. On obduction the liver was small and yellow, and dotted throughout with small miliary granules, peri- and intra-lobular caseous tubercles with diffuse hepatitis in between with areas of cellular necroses indicating a widespread distribution of the bacillus. The nodules contained very large numbers of tubercle bacilli. CHRISTOPHER ROLLESTON.

The pre-operative diagnosis of tubercular mesenteric and retro-peritoneal glands (*'Boston Med. and Surg. Journ.,'* 1915, CLXXII, *p.* 253).—**E. H. Risley** finds the diagnosis commonest between the ages of 6 and 8 years, and recognises two clinical types: (*a*) distinctly palpable masses of glands accompanied by no or only vague abdominal symptoms; (*b*) cases with marked abdominal signs with no palpable glands. There may be no symptoms even in the presence of palpable glands, or the condition may be discovered only on operation, as the glands are too small to be felt. On the other hand, the symptoms may be a slight and fleeting abdominal pain; in other cases the pain may be localised in the cæcum, and lastly the onset may be sudden or gradual with all the signs of obstruction. The prognosis in the subacute stage is good without operation. In the acute stage an exploratory laparotomy should be performed, but the glands should not be removed unless there are adhesions, ulceration or mechanical obstruction. F. R. B. ATKINSON.

Tuberculous vaginalitis in children (*'Riv. di Clin. Pediat.,'* 1915, XIII, *p.* 347).—**G. Pieri** from a study of five cases states that tuberculous vaginalitis occurs without being preceded or followed by clinical manifestations of tuberculous infection of the peritoneum. In cases with coexisting tuberculous peritonitis the vaginalitis is revealed in the form of a secondary symptomatic hydrocele, while in apparently primary forms it shows itself by the presence of nodosities of varying size—hard, irregular, and painless—in the substance of the peritoneal canal. In inguinal hernia in which palpation reveals the presence of irregular nodosities of doubtful interpretation, tuberculosis of the sac should be borne in mind. Tuberculous vaginalitis in children has a marked tendency towards spontaneous cure. Operations on hernias in which the co-existence of tuberculous vaginalitis is suspected should be avoided since there is a risk of making an incomplete operation or having to resect the cord or testicle. The cure of the tuberculous process should be awaited before undertaking the radical cure of the hernia. VINCENT DICKINSON.

Hemiparesis and hemiplegia as an early symptom in tuberculous meningitis (*'Arch. of Ped.,'* 1914, xxxi, *p.* 607).—**P. S. Chancellor** describes the case of a female child, aged 3 years, in whom the above signs appeared early after the onset of convulsions. He quotes other instances from the literature. F. R. B. Atkinson.

Hemiparesis and hemiplegia as early symptoms of tuberculous meningitis (*'Arch. of Ped.,'* 1914, xxxi, *p.* 902).—**L. W. Sauer** describes two cases in children in whom paresis rapidly developing into paralysis were the first symptoms of an existing meningitis. The diagnosis was proved on autopsy. F. R. B. Atkinson.

The cuti-reaction in experimental tuberculosis (*'Riv. di Clin. Pediat.,'* 1915, xiii, *p.* 330).—**E. Orsi-Battaglini** conducted nine series of experiments, viz. endoperitoneal injection of emulsion of tuberculous meningeal effusion, of caseous material from a tuberculous guinea-pig, of the same from a tuberculous gland of a child; injection of emulsion of pure culture of human tubercle into the medullary cavity of the femur; intraperitoneal and intravenous injection of attenuated human tubercle bacillus and of dead tubercle bacillus. He found that the reaction took place equally whatever be the infecting tuberculous matter, whatever its degree of virulence, and even if consisting of dead tubercle bacilli. The reactions had no relation to any definite period of development of the specific anatomical lesions, but to the presence in the circulation of tuberculous toxins, whether products of the vital activity of the tubercle bacillus in the affected organs, or contained in the culture plates, or set free by slow disintegration of the dead bodies of the bacilli. The time of appearance varied; most commonly it was observed from fifteen to twenty days from the date of infection. Precocious reactions on the fifth to seventh day took place when the material (dead bacilli, old cultures) or the mode of inoculation were such as to throw the toxins immediately into the circulation, while on the other hand retarded reaction (sixty-seventh day) was caused by bacilli of feeble virulence, and localised in organs, such as glands, where they were able to exert their pathogenic influence only in a minor degree. In generalised and acute forms the reaction was either absent or very slightly marked, as was also the case in chronic forms approaching a fatal issue. Vincent Dickinson.

The significance of the von Pirquet test (*'Med. Record,'* 1915, lxxxvii, *p.* 57).—**W. T. Frazer** states that the number of children reacting to this test is less than stated by von Pirquet and others. Shaw and Laird, in a series of 330 children, found the average of positive reactions to be 28 per cent., increasing from 2½ per cent. under 2 years to 45 per cent. between 6 and 14. Sachs, in a series of children of tuberculous parents, obtained a positive reaction in 49 per cent. between 7 and 14 years, 60 per cent. between 15 and 20, and 73 per cent. above the age of 20. Wachenheim, investigating Jewish children, found that all clinical cases of tuberculosis reacted; 24 doubtful cases under 6 gave no positive reactions, in 36 children between 6 and 9 there was a percentage positive reaction of 5·6, while in 20 children over 10 only 15 per cent. reacted. This author concludes that most children that look tuberculous are free from the disease. Frazer's own figures are few; of 36 children tested, 8 were under 7 and were all negative, 28 between 7 and 14 gave eight reactions, a percentage of 28. The following technique is recommended: Pure tuberculin should be injected by a von Pirquet scarifier into the skin of the forearm previously cleansed with

ether. A drop of glycerine should be used for the control. All reactions below 5 mm. should be ignored. The author's conclusions are: (1) a positive reaction is less frequent than is commonly thought, the former high percentages were due to the material being derived from the poor and infected; (2) a reaction occurring up to the age of ten is suspicious; (3) a negative reaction negative on repetition is valuable evidence of the absence of tuberculosis. CHRISTOPHER ROLLESTON.

The cutaneous tuberculin test in children of non-tuberculous parentage (*'Arch. of Ped.,'* 1915, XXXII, *p.* 20).—**M. Fishberg** alludes to his recent study of the child in the tuberculous milieu (*v.* BRITISH JOURNAL OF CHILDREN'S DISEASES, 1914, XI, *p.* 419), and records the results of von Pirquet's test in 588 children under 15 years living in the tenement district of New York City, in whose homes was no known actively tuberculous person. 52·72 per cent. gave positive reactions. During the first year of life the proportion of "reactors" was small (4·54 per cent. under 6 months, and 14·71 per cent. between 6 and 12 months). From 1 to 2 years of age, 33·33 per cent. reacted; between 3 and 4, 41 per cent.; between 5 and 6, 50 per cent.; between 7 and 10, 64·74 per cent.; between 11 and 14, 69·4 per cent.; and at 14, 75 per cent. J. D. ROLLESTON.

Cutaneous regional variation in the Pirquet reaction (*'Arch. of Ped.,'* 1915, XXXII, *p.* 92).—**J. A. Colliver** investigated how the different parts of the body reacted to the von Pirquet test. The parts of the body tested and the results are shown in the following table.

Part of body.	Traumatic reaction.			First appearance of a positive reaction.			Greatest intensity of reaction reached.		
	None.	Small.	Large.	Less than 24 hrs.	Between 36 and 48 hrs.	More than 48 hrs.	24 hrs.	Between 36 and 48 hrs.	Over 48 hrs.
Hand(dorsum)	15	33	2	42	8	0	3	31	16
Foot (dorsum)	18	30	2	46	4	0	2	14	34
Knee . .	26	22	2	39	10	1	1	31	18
Shoulder. .	6	32	12	47	2	1	3	33	14
Neck, near vertebra prominens .	8	40	2	50	0	0	7	35	8
Back (sacro-iliac region).	5	30	15	47	2	1	3	31	16
Forearm . .	7	41	2	46	3	1	3	34	13

F. R. B. ATKINSON.

Positive skin tuberculin reactions in children (*'Boston Med. and Surg. Journ.,'* 1915, CLXXII, *p.* 161).—**O. F. Rogers, jun.,** inquired into the subsequent history of 69 children who had given a positive von Pirquet's reaction while in the Massachusetts General Hospital and had been discharged for at least one year and not more than four years. He found that a positive reaction before the age of two indicated that life was likely to be short, and that the mortality among all children up to the age of ten with a positive reaction was much higher than that of normal children.

J. D. ROLLESTON.

Care of the tuberculous child (*'Arch. of Ped.,'* 1915, xxxii, *p.* 490).—**I. O. Woodruff** lays great stress upon the importance of rest in the treatment of pulmonary tuberculous in children. The pulse rather than the temperature is the guide by which the amount of exercise and rest should be regulated. Open-air schooling should be limited to three hours daily. Rest in the reclining posture for an hour after the midday meal is insisted on. Hot and humid climates are unfavourable, and also dusty and windy localities. A diet with high fat and proteid figures is necessary. A weekly dose of castor oil reduces the digestive disturbances of superalimentation. Tuberculin in doses commencing at ·00000001 grm. and increasing by 25 per cent. was given to those cases which did not improve by ordinary measures. The local reaction should be the guide to the dosage. No remarkable results are recorded, but satisfactory cures were obtained in glandular tuberculosis. Children should be allowed to resume their ordinary life when the physical signs have disappeared or are stationary for a few months, nutrition normal, and the pulse of normal rate and range. Periods of rapid growth should be carefully watched. Slight respiratory affections should be treated at once by rest in bed. Great care should be taken to prevent measles and whooping cough. No children should enter the consumptive's bedroom, from which carpets should be banished, and where dustless methods of cleaning should be employed. Tonsils and adenoids should be removed from children in contact with tuberculous persons. All contacts should be examined every six months, and the von Pirquet tests should be performed on these and on all children born in tuberculous families. In those that fail to react the test should be reapplied every six months.

Christopher Rolleston.

Water in the prevention and cure of tuberculosis (*'Med. Record,'* 1915, lxxxviii, *p.* 173).—**S. A. Knopf** finds that the majority of his tuberculous patients are constipated and drink very little. Six or eight glassfuls of water must be taken between meals and small quantities at meals. Under this *régime* the temperature falls, headache vanishes, the bowels are evacuated, and the sputum becomes less tenacious. This action of water is aided by taking large quantities of salt. Equally important are cold baths taken in the morning at a temperature of 76° F. In suitable cases the inspiration deepened, the heart contracted better, and the resulting cutaneous hyperæmia relieved the pulmonary congestion. In some cases harm is done. A douche at a temperature of 80° to 70° F. should be applied for short periods at first and should be preceded by a brisk short walk. Complete immersion up to the neck in the ordinary bath is a good alterative, and should be followed by brisk towelling in the bath-room, which must be heated to 80°–85° F. After this the patient should get into a well warmed bed for some time, and a pleasant feeling of warmth should be experienced. The first bath should be taken as follows: The bath is brought near the bed. The patient removes his sleeping suit in bed. Hot water at a temperature of 110° F. is poured into a circular English bath to the depth of about 5 in. The patient stands in the bath and two pitchers of cold water are poured over the shoulders. Wet packs are recommended for night sweats, pleuritic pain, and uncontrollable cough. Three towels should be wrung out of cold water at 50° F. and kept in place by a thick flannel band. In very weak patients the pack should be applied alternately to the upper and lower extremities. When the temperature is very high an ice-bag over the heart will render good service.

Christopher Rolleston.

Results of bone plastic and graft operations on the spine for the cure of Pott's disease (*'Journ. Amer. Med. Assoc.,'* 1913, LXI, *p.* 1780).—**J. J. Nutt** gives the results of fifteen cases which have come under his observation at a convalescent hospital. In these cases either a plastic or graft operation had been performed. The former consists in splitting the spines of several contingent vertebræ in a plane coincident with the antero-posterior medial plane of the body, fracturing these split portions near their back, bending one half of each spine upward and the other half downward, and with sutures securing each half to the opposite half of the vertebra above or below, as the case may be. In the graft operation a piece of bone from the tibia of the patient is transplanted to a bed made for it by splitting the spines of the vertebræ to be immobilised. In the four cases of the plastic operation the result was of no benefit in two and doubtful in two, the deformity of the spine being increased in all. In the eleven instances in which the graft operation had been performed the result was beneficial in three, not beneficial in seven, and doubtful in one; the spinal deformity had not increased in five, but was more marked in six. The writer, therefore, while not unqualifiedly condemning these operations, does not believe that the claims which have been made for them have been substantiated.

T. R. WHIPHAM.

Otology, Rhinology and Laryngology.

Deafness following mumps (*'Med. Record,'* 1915, LXXXVII, *p.* 353).—**J. Weinstein** describes a case in a boy, aged 8 years. Deafness developed four days from the onset of the mumps and became complete in five days. He discusses the literature of the subject and emphasises the importance of prompt treatment.

MACLEOD YEARSLEY.

Otitic pneumococcic bacteræmia (*'Journ. Amer. Med. Assoc.,'* 1915, LXV, *p.* 243).—**A. S. Tenner** reports the case of a girl, aged 9 years, with a double acute otitis which gave rise to a bloody serous discharge and a high temperature for eight days without any signs of mastoid involvement. A blood examination at the end of a week showed a leucocytosis of 14,000, and a culture grew a scanty growth of pneumococci. The child made a good recovery, though it was retarded by a duodenitis, which was undoubtedly metastatic in character.

T. R. WHIPHAM.

Labyrinthitis following operation for atresia (*'Boston Med. and Surg. Journ.,'* 1915, CLXXII, *p.* 700).—**Gordon Berry.**—Boy, aged 15 years, complaining of deafness in the left ear. History of mastoid operation on this side in infancy, but no trace could be found of it. Left auditory canal only entered as far as the bony isthmus. Hearing tests showed a functionating cochlea. Operation for the atresia was performed by chisel and curette, and grafting five days later. Hearing improved. Symptoms of labyrinthitis began two weeks later, and an operation was performed. Recovery took place, but a little over a year later the boy had to be removed to the State Insane Hospital. A long and fully detailed history of the case is given.

MACLEOD YEARSLEY.

The tonsils as a source of local and systemic infection (*'The Polyclinic,'* 1915, XIX, *p.* 23).—**H. Tilley** points out the importance of the supratonsillar fossa as a frequent septic focus. It is not the size of the tonsil that matters, but its septicity. He believes that the symptoms caused by the

accumulation of chronic inflammatory products in the supratonsillar fossa is responsible for more mental suffering than any other disease which comes before those who confine their attention to diseases of the upper air-passages. Tonsils play an important part in obscure pyrexia in young children. Septic tonsils should be removed in their entirety. MACLEOD YEARSLEY.

Round worm within the body of a tonsil (*'Journ. Amer. Med. Assoc.,'* 1915, LXIV, *p.* 659).—**A. B. Middleton** reports the case of a girl, aged 8 years, who had not been well since an attack of chicken-pox at the age of 2. She was anæmic, thin, and undersized, and had an adenoidal expression, but had never suffered from sore throat. She had had regular bilious attacks for two or three days at a time once every three weeks. Both tonsils were enlarged, and an operation for the enucleation of the tonsils and adenoids was undertaken. The right tonsil ruptured when the snare was tightened, and a female ascaris, $1\frac{1}{4}$ in. in length, escaped. Within the tonsil was a cavity which had possibly been the habitat of the worm for several years. After the operation the bilious spells ceased and the child improved in health.
T. R. WHIPHAM.

Vincent's angina (*'Glasgow Med. Journ.,'* 1915, II, *p.* 34).—**J. Harper** was asked to see in consultation a boy, aged $6\frac{1}{2}$ years, who had been suffering from a slight sore throat of three days' duration. He had complained of a headache and was feverish at night, but otherwise was perfectly well, and it was with difficulty he was kept in bed. No pain in the throat was complained of, but the temperature was 102° F., and several whitish patches on the right tonsil were noticed. A perchloride of iron throat paint was given, but the spots gradually increased. When the author saw the case, the boy said he was perfectly well except for a slight headache. The tongue was furred and the breath foul. The right tonsil was covered, in its posterior half, with a dirty greyish membrane, the removal of which caused bleeding. There was no enlargement of the submaxillary and cervical glands, the temperature was 103° F. and the pulse 100. On staining a portion of the membrane, typical fusiform bacilli with numerous spirochætes were found. A strong purge was ordered, and the tonsil was swabbed with perchloride of mercury (1 in 100). Twelve hours later the temperature had fallen to normal and the pulse to 80. For four days the throat was swabbed once daily with nitrate of silver (60 gr. to the oz.). At the end of that time no fusiform bacilli nor spirochætes were to be found on examination of several swabs from the throat. The membrane had disappeared on the third day after commencement of the treatment. For ten days afterwards the patient's throat was swabbed daily with nitrate of silver (15 gr. to the oz.) and since then there has been no reccurrence of the disease.
J. ALLAN.

Parapharyngeal abscess as distinguished from retropharyngeal and peritonsillar abscesses (*'Am. Journ. Dis. Child.,'* 1915, X, *p.* 104).—**H. Heiman.**—Parapharyngeal abscesses are situated in the lateral column of the pharynx and originate in the superior chain of the deep cervical glands which lie along the course of the carotid artery and drain the mouth, tonsils, palate, pharynx, posterior part of tongue, nasal fossæ, interior of skull, and deep parts of head and neck. Although the ætiology of both conditions is practically the same, the retropharyngeal type is most likely to follow ordinary rhino-pharyngitis, while the parapharyngeal type usually follows influenza, tonsillitis, scarlet fever, measles, and other infectious diseases.

Retropharyngeal abscesses nearly always occur in infancy, while parapharyngeal abscesses are commonest after three years of age. As a rule, these abscesses are cured only by external operation. Three illustrative cases are recorded in children aged from 3 to $7\frac{1}{2}$ years.

J. D. Rolleston.

Inclusion dermoids of the pharynx (*'Lancet,'* 1915, I, *p.* 595).—**F. J. Poynton, T. N. Higgins,** and **G. R. Pirie** record a case in a female infant, aged 5 months. Under an anæsthetic the tumour was removed. The specimen measured $1\frac{1}{2}$ ins. in length and was half an inch thick at its broadest part and a quarter of an inch at its narrowest. The colour was pale pinkish-white, and to the feel it was soft and smooth; it was covered sparsely with short hair. On section with a knife it was rather tough, and at its centre there was a small cavity in which lying loosely was a small glistening, pearly-white plate of cartilage. Microscopy showed an external covering of thin skin with normal layers of compound epithelium. Under this was the subcutaneous stratum showing hair follicles and sebaceous glands. Deeper still was fibrous and fatty tissue, and in the centre cartilage. References to other recorded cases are made.

J. Allan.

The early diagnosis of streptococcic sore throat and the effect of vaccines in its treatment (*'Med. Record,'* 1915, LXXXVII, *p.* 809).—**R. R. Mellon.**—An early examination of cultures from acute sore throat is valuable because it precludes an overgrowth by contaminating organisms, and because it often gives a clue to the virulence and toxicity of the infecting agent. It is, however, of no value in chronic cases. Our ideas as to what constitutes a normal throat and mouth require revision. Absence of pain is no proof of the bacteriological normality of the oral cavity. Tonsils may harbour streptococci or diphtheria bacilli, and the former may develop a focus in the gums and round the roots of the teeth, as well as in the tonsils. Examinations of the oral cavity should look to a more careful interpretation of the organisms found there. The relation of hæmolytic cocci to the arthritides and of the *S. viridans* and pneumococcus to endocarditis necessitates the use of blood agar for this work. Acute cases of streptococcic sore throat respond very quickly and decisively to a vaccine of proved immunising power, provided it is used early.

Macleod Yearsley.

The use of kaolin to remove bacteria from the throat and nose (*'Journ. Amer. Med. Assoc.,'* 1915, LXIV, *p.* 1985).—**L. Hektoen** and **B. Rappaport** advocate the use of kaolin for the removal of diphtheria bacilli and other bacteria from the throat and nose on account of its great absorptive powers. In addition to frequent insufflation they recommend the swallowing as slowly as possible of one third of a teaspoonful of kaolin four or five times an hour during the day.

T. R. Whipham.

The post-operative antiseptic treatment of the tonsillar fossæ (*'Journ. Amer. Med. Assoc.,'* 1915, LXV, *p.* 160).—**G. P. Marquis** advises that after the tonsils have been removed the tonsillar fossæ should be painted with 25 per cent. tincture of iodine in order to prevent infection. It is necessary, of course, that all hæmorrhage be arrested before the application, or it will be washed away and no effect produced by it.

T. R. Whipham.

Laryngeal papillomata in children (*'Med. Chronicle,'* 1915, LX, *p.* 273).—**Sir Wm. Milligan** describes these growths and points out their greater frequency in males and their local malignancy. Their spontaneous atrophy is quite exceptional, and drug treatment is, as a rule, quite ineffectual. He disapproves of tracheotomy alone, and advises their removal by *direct* or by *suspension* laryngoscopy. Recurrence is best avoided by the local employment of radium or mesothorium. MACLEOD YEARSLEY.

Tracheal casts in diphtheria (*'Thèses de Paris,'* 1914–15, *No.* 66).—**W. Fedorovsky.**—Expulsion of a membranous cast of the trachea after tracheotomy through the tube is not infrequent, but spontaneous expulsion through the mouth is rare. Fedorovsky reports a fatal case in a soldier, aged 29 years, secondary to typhoid fever, and has collected seven other cases from the literature, two in adults, aged 19 and 33, the rest in children aged from 4 to 11 years. J. D. ROLLESTON.

Reviews.

AN INDEX OF PROGNOSIS AND END-RESULTS OF TREATMENT. By various authors. Edited by A. RENDLE SHORT, M.D., B.Sc., F.R.C.S., Assistant Surgeon, Bristol Royal Infirmary. Bristol: John Wright & Sons, Ltd., 1915. Price 21s. net.

THE aims of this work, as stated in the preface, are to set forth the results, and particularly the end-results of various methods of treatment, and to furnish data by which, apart from the question of treatment, an accurate forecast may be obtained of what will probably happen to the individual patient.

The editor has been assisted by twenty-three contributors, fifteen of whom are from London, four from Edinburgh, three from Bristol, and one from Newport. A special effort has been made to supply reliable statistics. Thus the editor in investigating the end-results of treatment at the Bristol Royal Infirmary has had to communicate with more than a thousand patients, and other contributors have taken great trouble to acquire from their private or hospital practice the necessary figures.

The articles of special interest to the pædiatrist are those on the infectious fevers by Dr. E. W. Goodall, on chorea and rheumatic fever by Dr. F. J. Poynton, on congenital heart disease, diseases of the myocardium, and pericarditis by Dr. Carey Coombs, on infantile convulsions, infantile paralysis and meningitis by Dr. Purves Stewart, and on infantile diarrhœa by Dr. J. R. Charles. Most of the articles on the surgery of childhood, such as cleft palate, congenital dislocation of the hip, intussusception, congenital pyloric stenosis, spina bifida, and talipes, are the work of the editor, while the contributions by Mr. W. J. Greer on fractures, of Mr. Hugh Lett on appendicitis, and of Mr. A. J. Wright on diseases of the nose and throat contain much valuable information relating to these conditions in children.

A supplementary index is appended to the volume.

Much praise is to be accorded to the editor and his associates for this most useful work of reference, which forms a worthy companion to the 'Index of Treatment' and 'Index of Differential Diagnosis' brought out by the same publishers. The book is well printed and easy to handle. We have noticed

only one misprint, viz. Lee and Bachow for Lees and Barlow, in the article on meningitis. Our only criticism applies to the references to literature. These are supplied by only fourteen of the twenty-four contributors, hardly one of whom shows a uniformity of bibliographical style. J. D. R.

Diet and Disease in Infancy. By H. C. Cameron, M.D., F.R.C.P., Assistant Physician and Physician-in-Charge of the Department for Diseases of Children, Guy's Hospital. London: J. & A. Churchill, 1915. Pp. viii + 208. Price 8s. 6d. net.

To write a book of moderate dimensions on the subject Dr. Cameron has chosen is far from being an easy task. Difficulties of selection and arrangement must necessarily assail the author at almost every turn. In the present case, although we do not think that each difficulty has been overcome with equal success, we can unreservedly say that Dr. Cameron's book is both interesting and helpful.

After a good introduction there are a couple of chapters by Dr. Janet Lane-Claypon upon the subject of a "high-grade" milk. Shortly after there follows an excellent chapter on breast-feeding, one of the most valuable parts of the book. Throughout the volume the author voices the views of the Finkelstein school, which are particularly closely followed in the chapters on the dyspepsias of infancy. These are very well done, clearly arranged and helpfully written. In the latter part of the book the dietetic diseases and those associated with abnormal conditions of the alimentary tract are dealt with, of which we like least the chapter on hypertrophic pyloric stenosis, here described as pylorospasm.

The weakest part of the book is concerned with the artificial feeding of normal infants. Nowhere is a connected account of this subject very clearly given. We are glad to recognise the favour with which the author regards the method of feeding by citrated "whole-milk," but nowhere can we find a good account of the method. Indeed, in spite of the favourable verdict upon it passed upon p. 20, it is not until p. 127 that the amounts of such milk to be given daily are mentioned. Nor does the index help us to discover this. Perhaps by the coalescence and expansion of chapters iv, xvii, and v, a clearer and more helpful account of the subject might be given, and much repetition avoided. Might we not be spared in further editions the excessive use of hyphenated words, for which we cannot share the author's liking; as for instance in the sentence "a protein-rich, sugar-poor mixture"?

We offer these suggestions in view of the "senior student," for whom Dr. Cameron is in part writing. As regards the rest of the book, which comprises the bulk of the volume, not only the unqualified but the experienced will find much to interest and help him, and for ourselves we may say that we have thoroughly enjoyed reading Dr. Cameron's work. R. M.

What Every Mother should know. By C. G. Kerley, M.D., Professor of Diseases of Children, N. Y. Polyclinic Medical School and Hospital. New York: P. B. Hoeber, 1915. Pp. 107. Price 35c. net.

Dr. Kerley's book consists of a series of hints and items of useful information concerning the welfare of the child. Especially valuable is the advice as to feeding until the child is six years old. Chapters on common ailments and first aid to the baby are included, and also some useful recipes.

The subject matter is somewhat disconnected, and there is no attempt at style, but the book is none the worse on these accounts. We can thoroughly recommend it to the mother of moderate means. T. R. W.

The Health of the Child: A Manual for Mothers and Nurses. By O. Hildesheim, M.D., B.Ch., with an Introduction by G. F. Still, M.D., F.R.C.P. London: Methuen & Co., Ltd., 1915. Pp. 111. Price 1s. net.

This little book sets forth in a clear and concise manner the principles on which those who have the care of children should act. The greater part of the book is devoted to growth and development, food and feeding, and the hygiene of the nursery, and there is also a chapter on common complaints and household remedies.

The book is practical and the advice given is sound. Being written in more or less simple language it should serve the purpose for which it was written, and be of considerable use to nurses and mothers. T. R. W.

Lord Mayor Treloar Cripples' Hospital and College, Alton, Hampshire. First Medical Report. By H. J. Gauvain, M.A., B.C.Cantab., Medical Superintendent. London: Horace Marshall & Son, Temple House, Temple Avenue, E.C., and 125, Fleet Street, E.C., 1915. Price 1s. net.

In this report is given a brief description, in non-technical language, of the work of the Hospital, of the methods of treatment employed, and of the results achieved. In carrying out the work at Alton the ideal has been: (1) To so increase the patient's powers of resistance that he himself may be made to overcome the disease by which he is attacked and render it innocuous. (2) To preserve and restore any particular bones or joints diseased. (3) To prevent deformity or, if deformity already exists, to correct or reduce this deformity as much as is possible. (4) To educate the patient while he is being treated, if his condition permits. (5) To exercise, as far as possible, efficient after-care and guidance, when treatment in the Hospital is completed and the patient discharged. How these various points are effected is shortly discussed. Clinical histories of several of the cases are given, and there are some interesting remarks on heliotherapy, both natural and artificial. The conservative treatment of tuberculous affections is strongly advocated. The brochure, which is profusely illustrated by many excellent photographs and skiagrams, affords interesting and instructive reading, and a careful perusal of it cannot fail to give the impression of a record of much good work well done. The report deserves to be widely read. J. A.

Transactions of the American Pediatric Society. Twenty-sixth session. Edited by Linnæus Edford La Fétra, M.D. Vol. XXVI. Chicago: American Medical Association Press.

The volume contains twenty-nine papers, most of which have appeared elsewhere and have already received, or will shortly receive, notice in this Journal. Infant feeding is dealt with by Lovett Morse, Gittings, Milton Miller, and Eason and Woods, infectious diseases by Ruhräh, Friedlander and Wagner, H. D. Chapin, and La Fétra and Schroeder, and abdominal diseases by Kerley, Crozer Griffith, Langley Porter, and Huber. Benedict and Talbot contribute an important article on "The Respiratory Exchange of Infants." Emmett Holt and others write on "The Chemical Composition of Diarrhœal as compared with Normal Stools in Infants," and Rowland G. Freeman on the "Weights and Measurements of Infants and Children in Private Practice compared with Institution Children and School-children." Obituary notices of Morgan Rotch, Putnam, and Forchheimer will be found at the end of the volume. J. D. R.